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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,131	06/24/2003	Steve Doe	884A.0005.U1(US)	4021
29683	7590	05/17/2005	EXAMINER	
HARRINGTON & SMITH, LLP			WANG, GEORGE Y	
4 RESEARCH DRIVE			ART UNIT	
SHELTON, CT 06484-6212			PAPER NUMBER	
			2871	
DATE MAILED: 05/17/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/606,131

Applicant(s)

DOE, STEVE

Examiner

George Y. Wang

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 21, 22 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leibowitz et al. (U.S. Patent No. 4,500,173, hereinafter "Leibowitz") in view of Weber et al. (U.S. Patent No. 5,686,979, hereinafter "Weber").

3. As to claims 1, 5, and 23, Leibowitz discloses a display device (fig. 1, ref.10) comprising a first electrode (fig. 1, ref. 20), a liquid crystal layer (fig. 1, ref. 16) connected to the first electrode, a second electrode (fig. 1, ref. 28), a switchable optical layer (fig. 1, ref. 26) having in use either a transparent state or a non-transparent state being electrically switchable between the transparent state and a the non-transparent state where the non-transparent state is a reflective state (col. 6, lines 44-56), and a third electrode (fig. 1, ref. 24) positioned between the liquid crystal layer and the switchable optical layer.

However, the reference fails to specifically disclose a liquid crystal layer under the first electrode.

Weber discloses a display device where the liquid crystal layer (fig. 1, ref. 18) is under the first electrode (fig. 1, ref. 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have positioned the liquid crystal layer under the first electrode since one would be motivated to apply predetermined voltages to the LC layer from the drive device in order to control light modulation for efficient light usage and individual manipulation of each pixel (col. 4, line 64 – col. 5, line 6).

4. Regarding claims 2-4, 6-10 and 12-19, Leibowitz discloses the display device as recited above where the third electrode (fig. 1, ref. 24) is shared by the LC layer and the switchable optical layer, where the electrode are either pixellated or unitary, also having associate pixel switches, where the first electrode (fig. 1, ref. 14) is a pixellated transparent electrode comprising distinct electrodes (col. 5, lines 31-32), and where the switchable optical layer (fig. 1, ref. 26) is arranged to be switched as a whole.

5. As per claim 11 and 20, Leibowitz discloses the display device as recited above with a first polarizer (fig. 1, ref. 12) positioned above the first electrode, a second polarizer (fig. 1, ref. 22), and a backlight (fig. 1, ref. 26), however, the reference fails to specifically disclose a second polarizer under the second electrode and above the backlight.

Weber discloses a display device having a second polarizer (fig. 1, ref. 34) under the second electrode (fig. 1, ref. 22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a second polarizer under the second electrode and above the backlight since one would be motivated to separate randomly polarized light into its plane-polarized components in order to transmit all of the light have polarization state to the alignment of the liquid crystals (col. 5, lines 31-46). Ultimately, this enables reflected light to have a relatively large bandwidth to optimize the transmission ratio (col. 7, lines 40-42; col. 8, lines 10-25) in mobile LCD devices.

### ***Response to Arguments***

6. Applicant's arguments filed February 28, 2005 have been fully considered but they are not persuasive.

Applicant's main argument is that the prior art of record fails to teach or suggest a "switchable optical layer." Applicant admits that the EL layer in Leibowitz could be a "switchable optical layer," but asserts that it is not switchable because it is either reflective or emissive. However, Examiner disagrees. The fact that the EL layer of Leibowitz is either an OFF (transmissive) or ON (emissive) does not preclude the fact that is switchable. In fact, that is what the definition of "switchable" in Merriam-Webster's Collegiate Dictionary (10<sup>th</sup> Ed.) as applied to electrical switching is defined as "to operate as either on or off." Thus, it is clear that the Leibowitz is not deficient in teaching the claimed limitation.

Applicant also argues that the optical layer is not reflective in a non-transparent state and asserts, rather that is "merely phosphorescent." However, according to

Merriam-Webster's Collegiate Dictionary (10<sup>th</sup> Ed.), the definition of "reflect" is "to give give back or exhibit likeness." Thus, when something phosphoresces – it take in light and "gives back" the likeness of light, it clearly satisfies Applicant's claimed "reflective state." Furthermore, Applicant's allegation is unsupported since neither Applicant's specification or claims preclude such an interpretation.

As a result, Examiner holds to the validity of the references used and maintains rejection.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

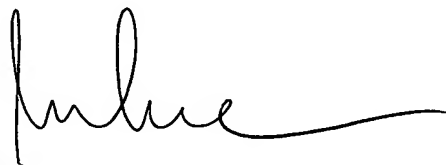
Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw  
May 14, 2005



DUNG T. NGO  
PRIMARY EXA